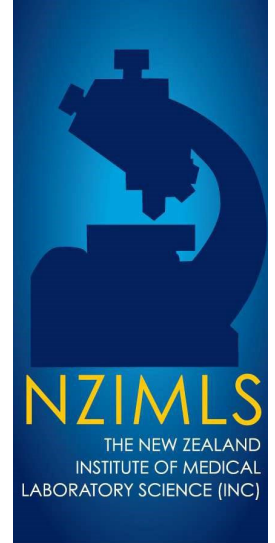


QUALIFIED MEDICAL  
LABORATORY TECHNICIAN

**DONOR SERVICES**

CURRENT CURRICULUM



**Part One: Common Curriculum**

**Part Two: Discipline Specific Curriculum in Donor Services**

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## Introduction

### Definition of a Medical Laboratory Technician

A Medical Laboratory Technician (MLT) is a person employed to perform routine tasks by following established protocols under the supervision or direction and control of a Registered Medical Laboratory Scientist. A MLT may only practise within their area of competence, in a health service that forms part of the medical laboratory science profession. During training, supervision would be direct. However, after suitable assessment of competency, it may be replaced with direction\* by a Registered Medical Laboratory Scientist or another registered health practitioner with an appropriate scope of practice, other than a Medical Laboratory Technician.

The QMLT candidate has two curricula to study:

- **The Common Curriculum** which is common to all NZIMLS technician qualifications.
- **The Discipline Specific Curriculum** which is common only to the discipline in which the candidate is sitting the QMLT exam.
- This document combines both the **Common Curriculum (Part One)** and the **Discipline Specific Curriculum (Part Two)**.

## Objectives

### 1. Education of Medical Laboratory Technicians and Medical Laboratory Pre-Analytical Technicians

- To provide an employer recognisable qualification in a New Zealand Medical Laboratory/Blood Service.
- To provide a qualification that is recognised by the Medical Sciences Council of New Zealand for the Registration of Qualified Medical Laboratory Technicians (QMLT) and Qualified Medical Laboratory Pre-Analytical Technicians (QMLPAT).
- To provide sufficient theoretical training to enable a medical laboratory technician or medical laboratory pre-analytical technician to perform their practical work with accuracy, reliability and efficiency.
- To enable them to appreciate the reasons for, and the importance of the procedures and the tests that they perform.
- To enhance interest in their work and increase job satisfaction and self-esteem.

### 2. QMLT and Common Curricula

- To prescribe the course of study for the QMLT examination.
- To define the composition of the examination.

The NZIMLS Council has prepared both a curriculum and practical assessment for use by Trainee Medical Laboratory Technicians preparing for the NZIMLS QMLT examinations.

The Practical Assessment **is compulsory** and has been included to aid candidates preparing for the QMLT examinations and to be a record of training or practical competency, accomplished by mastery assessment.

**NOTE -The Practical Assessment is a requirement and must be presented as part of the examination and qualifying process.**

The NZIMLS Council has taken significant steps to limit the theoretical knowledge required, to be sufficient to perform bench procedures and understand the importance of recognising abnormal or anomalous results for referral to a supervisor.

The request for specific numbers of points and the reduction in the number of tests to be performed in the Practical Assessment is an endeavour to limit the quantity of information to learn and examine.

***This does not preclude employers training their laboratory assistants for their own needs.***

## Part One

### Common Curriculum

#### Competence Standards

*(Reproduced with permission from the Medical Sciences Council of New Zealand)*

Competence standards are a description of the ability of a medical laboratory science practitioner to practise safely and effectively in a variety of contexts and environments. Competence is influenced by many factors including, but not limited to, the practitioner's qualifications, clinical experience, professional development and his/her ability to integrate knowledge, skills, attitudes, values and judgements within a practice setting. A critical value of competence standards is the capacity to support and facilitate professional practice and growth.

The standards set out in this document are expressed as entry-level competencies and behaviours. However, it is expected that all practitioners will successively build on these competence standards to levels expected of experienced practitioners.

The competence standards identify the minimum knowledge, skills and professional attributes necessary for practice. During any one procedure it is expected practitioners will demonstrate elements of practice across a number of broadly defined domains of competence. This recognises that competent professional practice is more than a sum of each discrete part. It requires an ability to draw on and integrate the breadth of competencies to support overall performance.

#### Context of the Competence Standards

*(Reproduced with permission from the Medical Sciences Council of New Zealand)*

The competence standards are directly linked to the three medical laboratory science scopes of practice defined by the Council under the Act.

Medical laboratory science practitioners in Aotearoa New Zealand practise within a legislated regulatory framework under the Health Practitioners Competence Assurance Act 2003. Defining scopes of practice serves to protect the health and safety of the public through the use of protected professional titles. Only individuals who hold current registration with the Medical Sciences Council are permitted to use the professional titles of:

- Medical Laboratory Scientist
- Medical Laboratory Technician
- Medical Laboratory Pre-Analytical Technician

### Competence Standards for Medical Laboratory Science Practitioners in Aotearoa New Zealand

#### An Overview of the Competencies Domains

*(Reproduced with permission from the Medical Sciences Council of New Zealand)*

Key competencies are arranged within a number of integrated themes called *Domains*. There are five domains of competence that apply to each of the scopes of practice for medical laboratory science practitioners. In addition, competencies specific to each scope of practice are articulated in a number of subsets (5A to 5C) of the fifth domain.

**Domain 1: Professional and Ethical Conduct**

This domain covers practitioners' responsibility to be professional and ethical and to practise within the current medico-legal framework. Includes their responsibility for ensuring patient confidentiality/privacy is maintained at all times while recognising the potential role as a patient advocate.

**Domain 2: Communication and Collaboration**

This domain covers practitioners' responsibility in utilising appropriate, clear and effective communication and their responsibility for ensuring they function effectively as a member of a health team at all times.

**Domain 3: Evidence-Based Practice and Professional Learning**

This domain covers practitioners' responsibility to engage in evidence-based practice and to critically monitor their actions through a range of reflective processes. It includes their responsibility for identifying, planning and implementing their ongoing professional learning needs.

**Domain 4: Safety of Practice and Risk Management**

This domain covers practitioners' responsibility to protect patients, others and the environment from harm by managing and responding to the risks inherent in both healthcare and medical laboratory science practice. It includes their responsibility for ensuring high quality professional services are provided for the benefit of patients and other service users.

**Domain 5: Medical Laboratory Science Practice**

This domain covers the knowledge, skills and capabilities practitioners need to practise the profession of medical laboratory science. Elements in this domain are common to all medical laboratory science practitioners, taking into account the different requirements of each scope of practice.

**Domain 5A: Medical Laboratory Scientist**

This domain covers the additional knowledge, skills and capabilities specific to the Medical Laboratory Scientist scope of practice.

**Domain 5B: Medical Laboratory Technician**

This domain covers the additional knowledge, skills and capabilities specific to the Medical Laboratory Technician scope of practice.

**Domain 5C: Medical Laboratory Pre-Analytical Technician**

This domain covers the additional knowledge, skills and capabilities specific to the Medical Laboratory Pre-Analytical Technician scope of practice.

More detailed information on these Standards can be found on the Medical Sciences Council website under "Competence Standards for Medical Laboratory Science Practitioners in Aotearoa New Zealand (revised November 2018).

# Definitions

1. **Quality assurance**  
All those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy a given requirement for quality.
2. **Quality Control**  
The monitoring and control of the process producing the product and service.
3. **Total Quality Management (TQM)**  
Management philosophy of continual incremental improvement through total involvement. Seeks, through the utilisation of fully trained, informed and involved employees, participating and working with management to satisfy customer requirements, to improve overall quality, productivity, efficiency and company viability.  
  
Reference ISO 15189
4. **Ethics**  
The rules or principles that govern right conduct.
5. **Confidential information**  
Information (written or spoken) given on the understanding that it will not be passed on to others.
6. **Patient/Donor confidentiality**  
Non-disclosure of patient's/donor's personal information, other than to his or her clinician, unless authorised by that patient/donor.
7. **Informed consent**  
Agreeing to something once provided with all the facts, understanding them fully and knowing one's rights as an individual.
8. **Cultural Competence**  
A set of congruent behaviours, attitudes and policies that enables effective interaction in cross-cultural situations. 'Culture' refers to integrated patterns of human behaviour that include language, thoughts, communications, actions, customs, beliefs, values and institutions of racial, ethnic, religious or social groups. 'Competence' implies having the capacity to function effectively as an individual and an organisation within the context of the cultural beliefs, behaviours and needs presented by patients and their communities.  
(Adapted from Cross 1989).

Refer also to Medical Sciences Council of New Zealand Policy and Guideline: Cultural Competence found on the MSCNZ website under resources.

<https://www.msccouncil.org.nz/assets/mlsb/Uploads/2018-Jun-V1-MSCC-Cultural-Competence.pdf>

## Word Definition

The following word definitions will be used to describe the level of knowledge a QMLT shall be required to achieve. Examination questions will also use these words.

| WORD DEFINITIONS |  |
|------------------|--|
| CALCULATE        | Perform a mathematical process to get the answer   |
| CLASSIFY         | Designate to a group   |
| COMPARE          | Detail both the differences and the similarities   |
| COMPLETE         | Finish, have all the necessary parts   |
| CONVERT          | Express in alternative units   |
| DEFINE           | State meaning clearly and concisely  |
| DESCRIBE         | Give a complete account demonstrating a thorough practical knowledge in a logical sequence |
| DISCUSS          | Give details, explaining both the positives and negatives                                  |
| DISTINGUISH      | Briefly point out the main differences   |
| EXPAND           | Express at length or in greater details  |
| INDICATE         | Briefly point out  |
| IDENTIFY         | Recognise according to established criteria  |
| INTERPRET        | Express the results of a test or series of tests in a meaningful format                    |
| LABEL            | Give a name to   |
| LIST             | Headings only  |
| MATCH            | Find one that closely resembles another  |
| NAME             | A word or group of words used to describe or evaluate                                      |
| OUTLINE          | Write brief notes incorporating the essential facts  |
| STATE            | Give the relevant points briefly   |

## Dilution Factor Definitions (where applicable)

Due to inconsistencies in nomenclature associated with dilution expression, the following will be used for calculations in the examination:

**½ and 1 in 2:** implies 1 part added to 1 part making a total of 2 parts,  
ie. A dilution factor of x2.

**1 to 2:** implies 1 part added to 2 parts making a total of 3 parts,  
ie. A dilution factor of x3.

Because of the dual meaning of the expression 1:2, it will not be used in the examinations.

## 1.0 What is Medical Laboratory Science?

- 1.1 Describe the role and understand the definition of medical laboratory science within the context of sample collection and analysis to aid the diagnosis and monitoring of disease, medical conditions and treatments thereof and in the testing and accreditation of donated blood and blood products to ensure the health of the donor and the safety of the blood supply.
- 1.2 Describe the concept of cultural competence, professional behaviour and attitude within a Medical Laboratory or Blood Service pertaining to:
- Patients, clinicians and colleagues.
  - Patient fluid, tissue and body parts.
  - Blood donors.
  - Donated blood, blood components, or tissue.
  - Be familiar with the MSCNZ Policy and Guideline: Cultural Competence, June 2018, including the attitudes knowledge and skills expected of a QMLT or QMLPAT in their dealings with patients and colleagues, and expectations of cultural competence in practice.
- 1.3 Outline the role of the professional/legislative bodies representing, training and governing Medical Laboratory Science in New Zealand.
- NZIMLS (New Zealand Institute of Medical Laboratory Science).
  - MSCNZ (Medical Sciences Council New Zealand).
  - Universities that train Medical Laboratory Scientists.
  - Understand the five domains of competencies (Professional and ethical conduct, Communication and collaboration, Evidence-based practice and professional learning, safety of practice and risk management and medical laboratory science practice) and associated standards as outlined in the Medical Sciences Council New Zealand's Competence Standards for Medical Laboratory Science Practitioners in Aotearoa New Zealand.
- 1.4 Outline the major functions of the following departments / sections and their interrelationships within a laboratory.
- Haematology
  - Biochemistry
  - Microbiology
  - Immunology
  - Histology
  - Cytology
  - Cytogenetics
  - Forensic Science / Mortuary Practice
  - Molecular Diagnostics
  - New Zealand Blood Service
  - Collection services (Phlebotomy)
  - Call Centre for helpline, results & enquiries
  - Specimen Services

- 1.5 Outline the major functions / roles of the following laboratory staff:
- Laboratory Clinical Director.
  - Pathologist, general and specialist.
  - Laboratory Manager.
  - Technical Head / Head of Department.
  - Section Leader / Technical specialist / Supervisor.
  - Scientific Officer.
  - Registered Medical Laboratory Scientist.
  - Registered Medical Laboratory Technician (QMLT).
  - Registered Medical Laboratory Pre-Analytical Technician (QMLPAT).
  - Registered Nurse within the New Zealand Blood Service.
  - Clerical / Administration staff.
- 1.6 Outline the role of the Laboratory with referring health professionals such as General Practitioners, specialists/ consultants, nurse practitioners, nurses and midwives, and with patients.
- 1.7 Identify and expand basic medical terminology and general abbreviations that relate to the laboratory. To include common prefixes and suffixes (e.g. hyper, hypo, -itis, neuro, -philia).

## **2.0 Ethics and Legislation**

- 2.1 Outline:
- Patient/Donor confidentiality.
  - Informed consent.
  - Duty of care (do no harm).
  - Statutory requirements for release of body parts to patients / families.
  - Statutory obligations for the release of samples (to referral laboratories, chain of evidence parties, patients).
  - Laboratory policies for the release of information / results to patients/donors.
  - The principles of Te Tiriti o Waitangi as applicable to the health and disability system. See <https://www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/strengthening-he-korowai-oranga/treaty-waitangi-principles>.
  - The Code of Health & Disability Services and Consumer Rights.
  - The NZIMLS code of ethics.
  - Knowledge of Health Practitioners Competence Assurance Act (2003).
- 2.2 Outline how the Health Practitioners Competence Assurance (HCPA) Act 2003 and following amendments relates to Medical Laboratory Science and the Health sector.
- 2.3 Describe the legal obligation for technicians to be registered and to hold an annual practicing certificate.
- 2.4 Define scope of practice.
- 2.5 Describe the scope definitions for a medical laboratory technician and medical laboratory pre-analytical technician, including the difference between provisional and full registration.

### **3.0 Human Anatomy and Physiology**

- 3.1 Identify the position of the major organs of the human body.
- 3.2 Outline their basic function.
- 3.3 Identify the specimen types (and their origin) encountered in Medical Laboratories.

### **4.0 Specimens**

- 4.1 Outline procedures for the packaging and transport of specimens for delivery to a laboratory (from the patient to a laboratory, and between laboratories).
- 4.2 Outline the procedures for the selection, preparation and storage of specimens within the laboratory.
- 4.3 Describe minimum specimen labelling requirements including those for New Zealand Blood Service.

### **5.0 Safety**

List your personal duties as a worker under the Health and Safety at Work Act 2015.

- 5.1 Define, with examples, a notifiable injury or illness, notifiable incident, and notifiable event, according to the Health and Safety at Work Act 2015.
- 5.2 Describe safety precautions and emergency procedures for incidents involving the following:
  - Fire
  - Electrical apparatus
  - Chemical (poisons, carcinogens, corrosive and volatile substances, gases, radioactive substances, liquid nitrogen)
  - Spillages of blood and other biological fluids
  - Earthquakes
- 5.3 Outline an accident reporting procedure for the workplace.
- 5.4 Outline the role of a health and safety representative.
- 5.5 Describe the safe handling of biological material under the following headings:
  - Identification of routes of infection
  - Types of infectious material
  - Safety equipment
  - Handling
  - Disposal
  - Decontamination
  - Transportation
- 5.6 Identify international safety symbols that are used in the workplace.

- 5.7 Describe the concept of safe practice within the workplace.
- 5.8 Describe the prevention and emergency treatment of the following:
- Eye splashes
  - Cuts and bleeding
  - Needle or sharps injury
  - Blood and Body Fluid exposure
  - Burns
  - Poisoning
  - Electric shock
  - Loss of consciousness
- 5.9 Outline the principles of and basic processes for Hazard Identification and Management including the use of Material Safety Data Sheets.
- 5.10 Outline the concept of occupational health and the role of self-protection through staff vaccination programmes, e.g. Hepatitis B vaccination.
- 5.11 Outline the principle of Occupational Overuse Syndrome/Gradual Process Injuries and its relevance in the laboratory, including some prevention strategies.
- 5.12 Outline the management of workplace stress

## 6.0 Equipment

- 6.1 Describe the use and routine maintenance (where applicable) of the following equipment:
- Thermo-regulated apparatus (Incubators, water baths, heating blocks, refrigerators, freezers)
  - Balances
  - Distilled/deionised water apparatus
  - Pipetting devices - manual and automated/mechanical liquid handling devices
  - Biohazard cabinets
  - Fume hoods/fume cupboards
  - Transport systems (including pneumatic tubes, couriers)
  - Countdown timers

(NOTE: "**Maintenance**" in the context of this curriculum refers to daily good house-keeping practices required to keep equipment clean and functioning at peak efficiency. Medical laboratory technicians are encouraged to recognise faults in equipment but must refer them to their supervisor for corrective action.)

- 6.2 Centrifuges:
- Outline the principle of centrifugation.
  - Distinguish between Relative Centrifugal Force (RCF) and Revolutions Per Minute (RPM).
  - Describe the use and maintenance required.
  - Describe the safety precautions necessary including specimen breakage.
- 6.3 Computers:
- Outline basic computer components including hardware and software.
  - Describe the role of computers in the laboratory / workplace.
  - Outline the utility of middleware in the laboratory.
  - Describe precautions taken by laboratories to ensure safety and security of data.
  - Outline the responsibilities of individual practitioners regarding cyber security in the workplace.

- 6.4 Barcodes and Scanners:
- Describe the use of barcodes and barcode scanners, and define and distinguish between linear barcodes and matrix (or two-dimensional) barcodes e.g. QR codes.

## 7.0 Quality Assurance

- 7.1 Define quality assurance and total quality management.
- 7.2 Describe quality control.
- 7.3 Define and distinguish accuracy and precision.
- 7.4 Define a Biological Reference Interval.
- 7.5 Describe the role of ISO 15189 within the Medical Laboratory.
- 7.6 Outline internal and external audit processes including the assessment bodies (e.g. International Accreditation New Zealand (IANZ), Ministry of Primary Industries (MPI)).
- 7.7 Outline the purpose of Document Control within the Medical Laboratory, and how it is achieved.
- 7.8 Outline quality feedback by customers (patients, donors and health professionals), including the objective of obtaining feedback and how it is used.

## 8.0 Calculations

The student shall be able to perform basic laboratory calculations including:

- Converting units – for example:  $\mu\text{mol}$  to  $\text{mmol}$ ,  $\text{ml}$  to  $\text{L}$ ,  $\text{g}$  to  $\text{kg}$ , fractions to percentage.
  - Define SI units – pico, nano, mili, micro, kilo as they relate to the power of 10.
  - Define pH and use this understanding to differentiate between acidic and basic solutions.
- 8.1 Statistics:
- Calculation of average and mean using a calculator.
  - Outline the principle of standard deviation and coefficient of variation.
  - Creation of and plotting results onto a Levy Jennings graph.
  - Outline the interpretation of Levy Jennings graphs.

See Guide to Calculations on the NZIMLS website under Education.

## 9.0 Reference Texts

Below are listed suggested reference texts. The latest versions are recommended. This is not an exhaustive list.

## 9.1 Specimens

Diagnostic Samples: From the Patient to the Laboratory: The Impact of Preanalytical Variables on the Quality of Laboratory Results  
Guder W.G, Narayansan S, Wisser H, Zawta  
BWiley-Blackwell

Clinical Diagnostic Technology – The total Testing Process, Volume 1: The Preanalytical Phase  
Ward-Cook K.M, Lehmann C.A, Schoeff L.E, Williams R.H  
AACCC Press, Washington DC

IATA Infectious Substances Shipping Regulations  
IATA Dangerous Goods Regulations  
<https://www.iata.org>

Land Transport Rule Dangerous Goods 2005  
<https://www.nzta.govt.nz/resources/rules/dangerous-goods-2005/>

## 9.2 Human Anatomy and Physiology

Phlebotomy Handbook  
Garza d, Becan-McBride K  
Pearson Educational, New Jersey USA

Phlebotomy Essentials  
McCall R.E, Tankersley C.M  
Lippencott, Williams & Wilkins, Philadelphia, USA

## 9.3 Equipment

Clinical Chemistry: Theory Analysis and Correlation  
Kaplan L.A., Pesce A.J.  
Mosby; Missouri, USA

TIETZ: Textbook of Clinical Chemistry and Molecular Diagnostics  
Carl A Burtis, Edward R Ashwood and David E Bruns Saunders; Philadelphia, USA

TIETZ: Fundamentals of Clinical Chemistry and Molecular Diagnostics  
Carl A Burtis and David E Bruns Saunders; Philadelphia, USA

## 9.4 Safety

Clinical Microbiology Procedures Handbook  
Amy L. Leber, Editor-in-Chief  
American Society for Microbiology Washington DC

Laboratory Safety Principles and Practices  
Fleming D.O., Richardson I.H., Tulis I.1, Vesley D.  
American Society Microbiology Washington DC.

Workplace stress: [www.employment.govt.nz](http://www.employment.govt.nz) (search stress),

[Worksafe.govt.nz](http://worksafe.govt.nz) (search stress)

## 9.5 Legislation and Standards

Health Practitioners Competence Assurance Act (2003)

*ISO 15189:2012 Medical laboratories – Requirements for quality and*

*competence*AS/NZS 2243 *Safety in laboratories*

*Clinical and Laboratory Standards Institute (CLSI) guidelines*

[www.legislation.govt.nz](http://www.legislation.govt.nz)

Code of Ethics of the New Zealand Institute of Medical Laboratory  
Science [www.nzimls.org.nz](http://www.nzimls.org.nz)

Competence Standards for Medical Laboratory Science Practitioners in Aotearoa New Zealand  
(revised November 2018). [www.msccouncil.org.nz](http://www.msccouncil.org.nz)

Policy and Guideline: Cultural Competence (June 2018) [www.msccouncil.org.nz](http://www.msccouncil.org.nz)

Te Tiriti o Waitangi Principles: <https://www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/strengthening-he-korowai-oranga/treaty-waitangi-principles>

## Part Two

### Discipline Specific Curriculum

### Donor Services

#### 1.0 Anatomy and Physiology

Learning outcome: The candidate will be able to identify the structure and discuss the function of specified blood collection sites and of the circulatory system and outline the haemostasis process.

##### 1.1 Collection Sites – arteries, veins, capillaries and nerves of the following:

- Major organs of the human body (See Common Curriculum)
- Structure of arm
- Location of arteries, veins, capillaries and nerves in the arm
- Vein Assessment

##### 1.2 Circulatory System:

- Blood – composition
- Blood vessels and structure – arteries, veins and capillaries
- Haemostasis and Coagulation
  - Vascular Phase – vasoconstriction
  - Platelet Phase – platelet plug formation
  - Coagulation Phase – fibrin clot formation
  - Clot retraction and Destruction – fibrinolysis
- Heart - structure and function
- Vascular system - circulation

#### 2.0 Health and Safety

Learning outcome: The candidate will be able to discuss safety policies and procedures within Donor Services.

##### 2.1 General rules for safety:

- Hazard identification and management (See Common Curriculum)
- Prevention and management of work related injury (See Common Curriculum)
- Needle stick injury to include prevention, first aid and reporting
- Sharps disposal
- Donor Services waste types – biological and non-biological

#### 3.0 Infection Control

Learning outcome: The candidate will be able to discuss the practice of Infection control within donor services and appropriate first aid.

##### 3.1 Infection control:

- Concept and practise of Standard Precautions
- Hand cleansing procedure including 5 Moments of Hand Hygiene
- Aseptic Technique versus Aseptic Non Touch Technique
- Types of infection (blood borne infection/ diseases)

- Modes of transmission of infection
- Process for decontamination (e.g. blood spill)
- Cleaning and disinfection of work surfaces, trolleys, beds chairs and cuffs
- Use of Personal Protective Equipment (PPE)

### 3.2 Appropriate First Aid:

- First response (DRSABC)
- Cardio Pulmonary Resuscitation (CPR)
- Automated External Defibrillator (AED)
- Recovery position
- Reporting/documentation

## 4.0 Blood Collection Equipment

Learning outcome: The candidate will be able to discuss and describe blood collection equipment and machines in terms of its use and function.

### 4.1 Blood Collection Equipment:

- Also see Equipment under Common Curriculum
- Antiseptics, disinfectants and cleansing agents
- Collection site dressings
- Equipment maintenance and storage
- Blood collection pack
- Needles, lancets and vacutainers
- Blood pressure cuffs

### 4.2 Blood Collection machines:

- Heat Sealer
- Automated Blood Mixer
- HB Testing Machine
- Apheresis Technology

## 5.0 Adverse Events

Learning outcome: The candidate will be able to recognise Adverse Donor Events including signs and symptoms and discuss the appropriate management or intervention and the reporting requirements.

### 5.1 Adverse Events

- Accidental arterial puncture
- Anaphylaxis
- Bleeding
- Bruising
- Cardiac Arrest
- Citrate reaction
- Faint (vasovagal event)
- Haematoma
- Penetrating nerve injuries
- Seizures
- Shock (e.g. hypovolaemic)

## 6.0 Ethics & Legislation

Learning outcome: The candidate will be able to outline the professional ethics and legislation required for Donor Services.

### 6.1 Ethics and Legislation (See Common Curriculum)

- Working under Supervision or Direction (MSCNZ)
- NZBS Donor Identification – multi-point check including any related documentation
- Patient/Donor confidentiality
- Informed consent
- Duty of care (do no harm)
- Statutory requirements for release of body parts to patients / families
- Statutory obligations for the release of samples (to referral laboratories, chain of evidence parties, patients)
- Laboratory policies for the release of information / results to patients/donors
- A Medical Laboratory's organisation's obligations to the Treaty of Waitangi
- The Code of Health & Disability Services and Consumer Rights
- The NZIMLS Code of Ethics
- Knowledge of Health Practitioners Competence Assurance Act (2003)

## 7.0 Variable for Blood Donation

Learning outcome: The candidate will be able to discuss the variables involved in blood donation.

### 7.1 Donor Status:

- Applied Muscle Tension education
- Dietary factors including hydration
- Weight
- New, lapsed or existing donor
- Donor age
- Donor anxiety

### 7.2 Storage and Transportation

- Packing of units and samples
- Transport times
- Documentation (e.g. consignment forms)
- Temperature monitoring and control (e.g. use of dataloggers)

## 8.0 Blood Collection of Venous and Capillary Blood

**Learning outcome:** The candidate will be able to discuss venous blood collection procedures including interpretation of information on the DSR and describe the associated responsibilities for the phlebotomist.

- See Donor Services Practical Assessment 2026

## 9.0 Blood Collection of plasma by apheresis

Learning outcome: The candidate will be able to discuss plasma collection procedures.

- See Donor Services Practical Assessment 2026

## 10.0 Blood Collection with an Evacuated Collection Device

Learning outcome: The candidate will be able to discuss collecting blood with an Evacuated Collection Device.

- See Donor Services Practical Assessment 2026

## 11.0 Donor Registration and Linking

Learning outcome: The candidate will be able to discuss Donor Registration and Linking the collected blood unit to the Donor.

- See Donor Services Practical Assessment 2026

### Recommended Reference Texts – Latest Editions

#### See Common Curriculum Reference Texts also

Waugh, A., & Grant, A. (2010). *Ross and Wilson Anatomy and Physiology in Health and Illness*. London: Churchill Livingstone

Strasinger, S. K., & Di Lorenzo, M. S. (2011). *The phlebotomy Textbook*, 3<sup>rd</sup> Edition. Philadelphia: F. A. Davis

Strasinger, S. K. (2003). *The phlebotomy Workbook*. Philadelphia: F. A. Davis

#### Additional texts:

Guder W.G., Narayanan S., Wisser H., & Zawta, B. *Diagnostic Samples: From the Patient to the Laboratory: The impact of Pre-analytical Variables on the quality of Laboratory Results*. Wiley-Blackwell

Pagana K., & Pagana T. *Mosby's Manual of Diagnostic and Laboratory Tests*. 5<sup>th</sup> Edition

## **Related Documents**

ISO 15189

CLSI (formerly NCCLS) Guidelines - International Consensus documents pertaining to phlebotomy and specimen collection.

## **New Zealand legislation**

Health and Disability Commissioners (Code of Health and Disability Services Consumers Rights) Regulations 1996

World Health Organisation WHO 5 moments of Hand Hygiene available at URL: [http://www.who.int/gpsc/tools/Five\\_moments/en/](http://www.who.int/gpsc/tools/Five_moments/en/) retrieved December 2018.

Working under Supervision or Direction (2016) [www.msccouncil.org.nz](http://www.msccouncil.org.nz)

Informed consent

- Privacy Act 1993
- Health Information Privacy Code 1994

## **Hazard and Risk Management**

Health and Safety at Work Act 2016

Health and Safety in Employment Regulations 2016

Health and Safety in Employment amendment Act 2017

Hazardous Substances and New Organisms (HSNO) Act 2017

Dangerous Goods 2005 and amendments 2010 and 2011

Code of Practice as issued by Worksafe NZ  
2012 Transport of Dangerous Goods on Land

NZS 8142:2008 – Infection control

Health and Disability Services- Safety Act 2001

NZS 4304:2002 – Management of Healthcare Waste